

# INSTRUCTION MANUAL

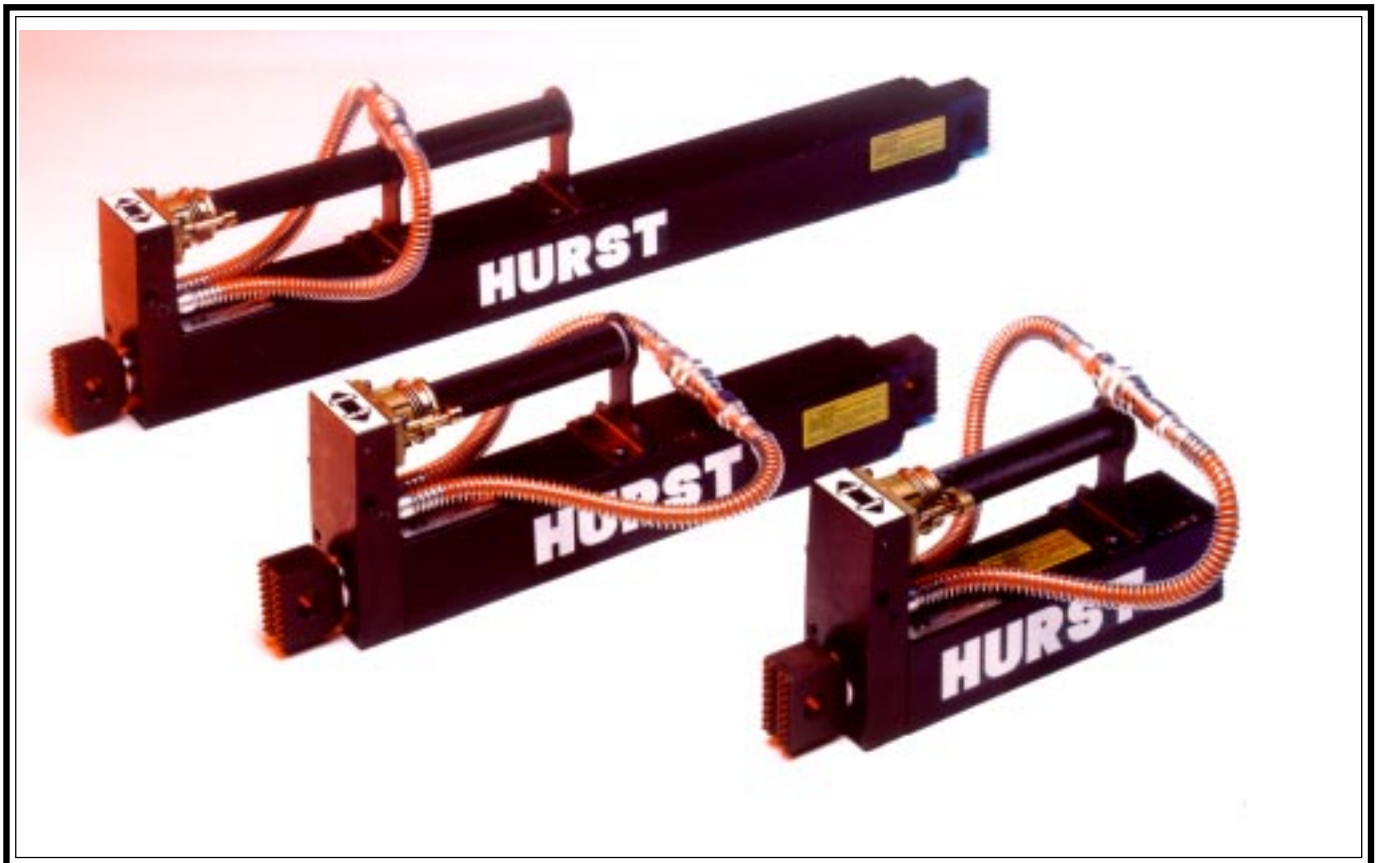


**JL-20C**

**JL-30C**

**JL-60C**

**EXTENSION RAMS**



# PRODUCT SAFETY POLICY

Jaws of Life® products are designed and manufactured to provide excellent service when used for their intended purpose. Operator safety is a major consideration in the product design and operator manuals are provided to promote their safe usage. Additionally, operator training programs are offered by all authorized Jaws of Life Distributors and this company.

Hale Products, Inc. urges all users of Jaws of Life products to read the Instruction Manual and to seek operating instructions from qualified instructors before attempting to use the products. Although most safety precautions are addressed in factory authorized training programs, as well as throughout this manual, particular attention is directed to the following:

- **Power units and tools should be operated by qualified personnel only.**
- **Proper protective clothing should be worn. (i.e. bunker gear, gloves, helmets, face shields, etc.)**
- **Inspect the equipment for obvious broken or missing parts or damaged hose before and after use.**
- **Keep clear of all moving parts.**
- **When pulling, keep clear of chains.**
- **When lifting, always use cribbing to shore and stabilize the object being lifted.**
- **When storing tool, compensate for possible pressure buildup from thermal expansion of hydraulic fluid by connecting the two short hoses on the tool, completing the circuit. Move trigger in both directions to equalize the pressure on both side of the piston.**
- **When removing the tool from a multi-tool circuit, be sure the other tools are not in use and the dump valve is in the "closed" position before disconnecting unit.**
- **Be sure to follow all maintenance procedures.**
- **Return your warranty registration card.**
- **Use only factory authorized service parts.**
- **Use only Jaws of Life fire resistant hydraulic fluid.\* Do not substitute other brands of hydraulic fluid because characteristics may differ. Fluid such as brake fluid or automatic transmission fluid will not work in the Jaws of Life system and will damage the equipment.**
- **Ear protection should be worn when operating the 2-cycle and 4-cycle units.**

## HYDRAULIC FLUID:

*Jaws Of Life®* hydraulic fluid\* is a custom blended phosphate ester fluid. In case of skin contact, wash off with soap and water. In case of eye contact, flush with generous amounts of running water. If discomfort persists following flushing, see physician for symptomatic treatment.

**DO NOT OPERATE EQUIPMENT WHEN TIRED, STAY ALERT.**

\*Monsanto product name MCS-2361 - MSDS on file.

# JL-20C

# JL-30C

# JL-60C

## ASSEMBLY/STORAGE



# 1

Remove Rescue Tool from carton; inspect unit and confirm that all bolts and screws are securely fastened and the unit has not been damaged in shipment.



# 2

Before connecting the hydraulic hoses, place the power unit by-pass valve lever in the **DUMP** position.

# 3

Connect the hoses from the power unit to the 15 inch hoses on the Ram as shown.

# 4

To operate the quick disconnect couplings, align the slot in the sleeve with the pin. Slide the sleeve back to connect or disconnect the coupling. After connecting the coupling, rotate the sleeve  $\frac{1}{4}$  to  $\frac{1}{2}$  turn to lock the coupling.

# 5

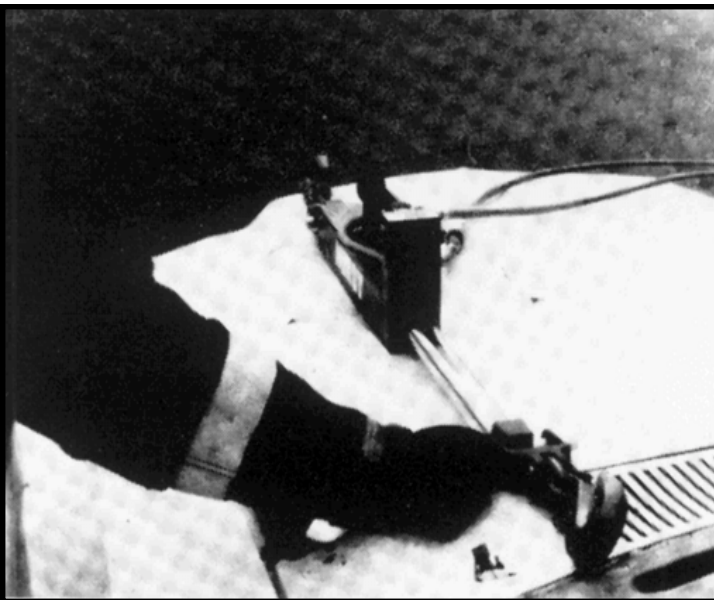
Start the power unit and move the operating lever on the power unit bypass valve to the **PRESSURE** position. Operate the Ram by twisting the actuator handle counter clockwise to extend the Ram and clockwise to retract. If the Ram does not operate correctly, make sure the quick disconnects are properly connected per steps 2 and 3 above. If needed, refer to the troubleshooting section of this manual.





# 6

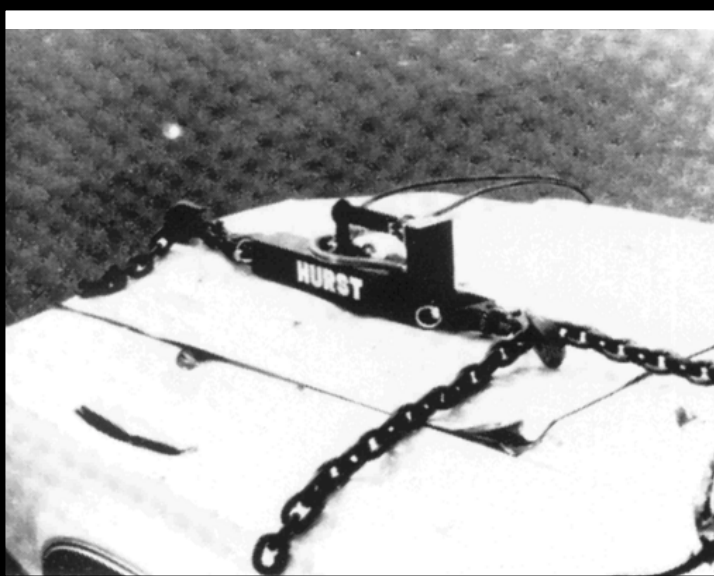
For initial start-up and after service or maintenance, extend and retract the Ram several times to purge any air from the system.



# 7

To attach chain shackles to the Ram, slip the shackles over the feet of the Ram and insert the long shackle pins through the holes in the feet, locking the shackles into place.

**NOTE:** Not applicable to JL-20C Rams.



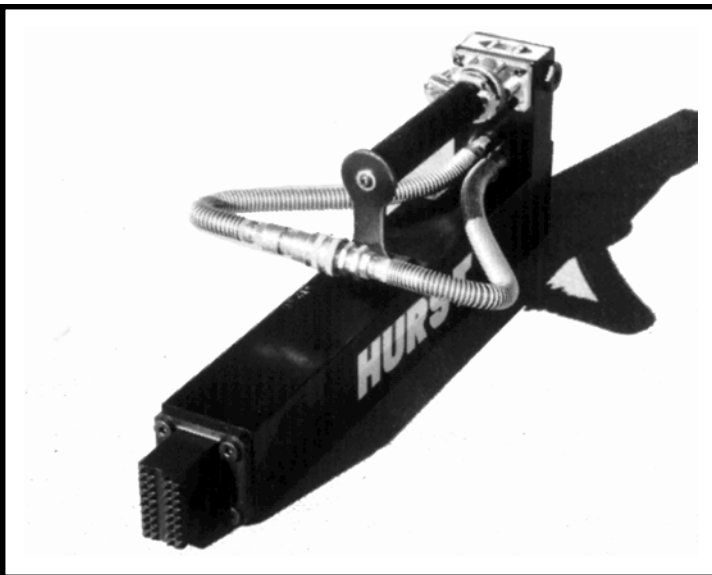
# 8

**CAUTION:** Be certain to attach the chains in the same direction (both hooks facing the same direction) to prevent twisting.



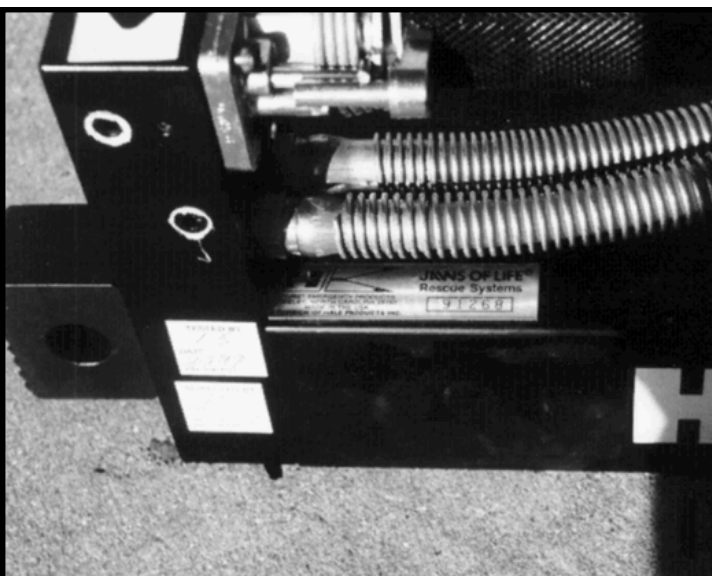
# 9

Before attempting to disconnect the Ram from the power unit always move the operating lever of the power unit by-pass valve to the **DUMP** position.



# 10

After use, disconnect Ram from the power unit. Connect the two 15 inch pigtail hoses on the Ram to each other. Protect the unit from moisture or store in a moisture free location. Secure in adequate storage space to prevent damage to the Ram and kinking of the hoses.



# 11

**IMPORTANT:** Your Ram must be registered.  
**PLEASE RETURN THE ENCLOSED  
SELF-ADDRESSED WARRANTY CARD.**

Should you have to contact us about your Ram, refer to the tool serial number (found on the tool as shown). This identification will expedite any service you may require and will also enable us to keep your records current.

**JL-20C**

**JL-30C**

**JL-60C**

# **SPREADING/PULLING**



**1**

To push an auto seat back, insert the Ram between a firm surface and frame of the seat. Twist the actuator handle counter clockwise to extend the Ram and break the seat bracket.



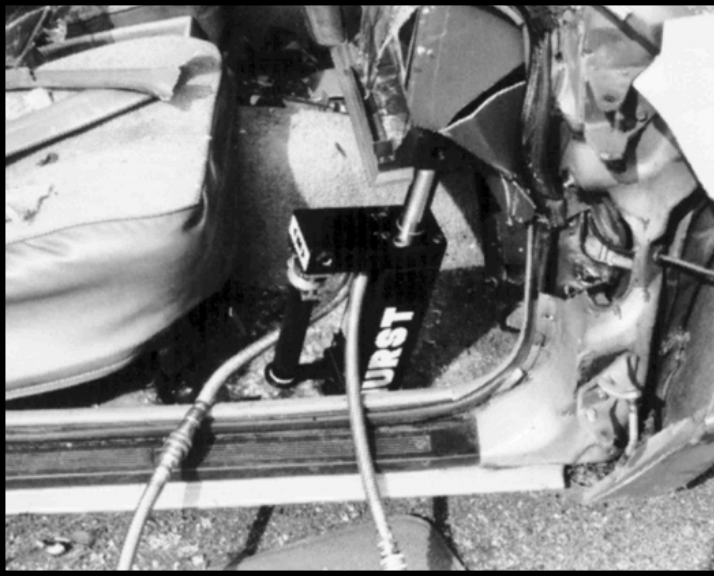
**2**

To lift a dashboard or steering column, place the stationary foot of the Ram at the base of the door opening on the latch side. Extend the Ram to make secure contact with the lower side of the dashboard/steering column. Continue extending to displace the dashboard/steering column.

**NOTE:**

This procedure applies to 30C & 60C Rams.

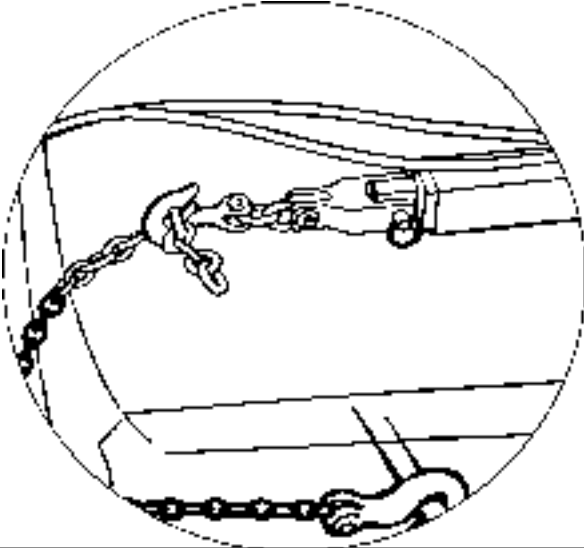




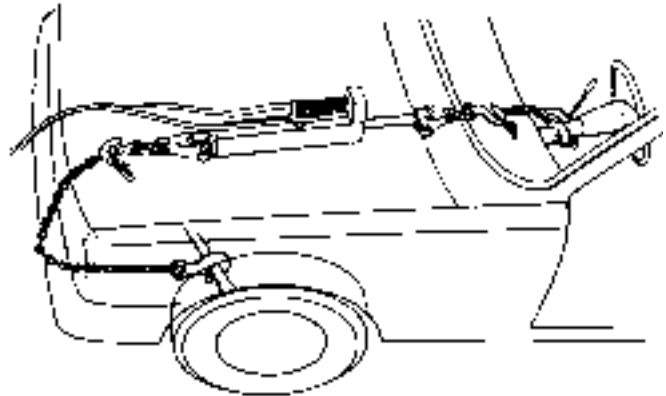
# 3

To lift a dashboard or steering column with a 20C Ram, place the stationary foot of the Ram on the floorboard. Extend the Ram to make secure contact with the lower side of the dashboard/steering column. Continue extending to displace the dashboard/steering column.

# 4



## PULLING



# 5

- A. Fully extend Ram.
- B. Place shackles over ends of feet and insert the shackle pins through the shackles.
- C. Wrap chain around the steering column and slip hook over the chain.
- D. Attach the other chain to the body frame beneath the car.
- E. Adjust the chain length at grab hooks until all slack has been removed from the chain and the Ram is resting on the hood of the car.



# 6

Lift steering column by retracting the Ram. If the steering column has not been pulled far enough away from the victim when the Ram is fully retracted, secure the steering column in its current position, then extend the Ram and shorten the chain length by adjusting chain at the grab hooks until all slack has been removed. Retract the Ram again to move the steering column a greater distance from the victim.

## FURTHER READING

International Fire Service Training Association  
*Principles of Extrication, First Edition*  
(Oklahoma State University, Board of Regents, 1990).

Grant, Murray, Bergeron  
*Emergency Care, Third Edition*  
(Bowie, Maryland: Prentice-Hall, 1982).

Office of Fire Prevention and Control  
*Accident Victim Extrication*  
(State of New York, Department of State, 1983).

International Fire Service Training Association  
*Aircraft Fire Protection and Rescue Procedures*  
(Oklahoma State University, Board of Regents, 1978).

NASD  
*Emergency Action at Aircraft Accidents*  
(Pennsylvania Emergency Management Agency,  
Office of Fire Safety Service,  
Pennsylvania State Fire Academy).

Ohio Trade and Industrial Education Service  
*Victim Rescue*  
(Columbus, Ohio: Ohio State University, 1976).

International Fire Service Training Association  
*Fire Service Rescue Practices, Fifth Edition*  
(Oklahoma State University, Board of Regents, 1981).

Balog, Ketola, Varker, McInterney and Scott  
*Rescue of Elderly and Disabled Passengers from  
Paratransit Vans and Buses*  
(Cambridge, Mass: Urban Mass Transportation  
Administration, 1984).

Richard Hornfeck, Assoc. Prof. and Director, Highway  
Safety and Gary Fulton, State Coordinator of Rescue  
Training  
*Pennsylvania Basic Vehicle Rescue Student Manual*  
(Indiana University, Division of Emergency Health,  
Harrisburg, Pa. 1982).

U.S. Department of Transportation, National Highway  
Traffic Safety Administration  
*Crash Victim Extrication*  
(Washington, DC, U.S. Government Printing Office,  
Revised 1979).

# TROUBLESHOOTING AND GENERAL MAINTENANCE

## GENERAL MAINTENANCE GUIDE\*

### DAILY MAINTENANCE/INSPECTION

- Inspect carefully for Hydraulic leaks
- Inspect hoses and couplings for wear and damage.
- Check control valve operation for easy operation and free return.
- Check cylinder rod for dirt and scoring.
- Be sure all parts are clean.
- Check feet for damage.

### AFTER USE MAINTENANCE

- Clean tool.
- Check for wear or damage on all parts.
- Check that all fasteners are in place and securely fastened.

### 6 MONTH MAINTENANCE

- Pressure check all valve and internal seals. Replace as required.
- Check Ram feet for damage and wear.

### ANNUAL INSPECTION\*

- Pressure check all valves and internal seals. Replace as required.
- Check operating pressure, unloaded through full operating cycle.
- Check Ram feet for chips, cracks or other damage.
- Check opening and closing times.
- Replace operating decals, if necessary.
- Replace hoses, couplings and fasteners as required.
- Clean and lubricate Ram.

### STORAGE

- Protect unit against moisture.
- Store in adequate space to prevent damage to hoses, connectors or Ram itself.
- **CAUTION: Before storage, connect the 15" hoses to each other and move thumb control in both directions to equalize pressure in system.**

*\* Call your authorized Jaws of Life Distributor for maintenance and annual inspection care.*

## TROUBLESHOOTING GUIDE\*

### PROBLEM

Tool operates erratically, slowly or fails to operate.

### CAUSE

- Hydraulic Fluid is low
- Air in Hydraulic System
- Valve thumb control lever is loose
- Low flow from power unit
- Erratic flow from power unit

### REMEDY

- Check fluid level in reservoir and add fluids as required
- Fully open and close tool several times.
- Tighten or replace screw on thumb control lever, or replace thumb control lever assembly as required.
- Have power unit repaired.
- Have power unit repaired.

Tool has apparent loss of power

- Low pressure from power unit
- Leak in control valve seals
- Internal seal failure
- Coupling failure

- Have power unit repaired.
- Remove and replace control valve.
- Have tool repaired with new seals.
- Remove and replace couplings.

Tool fails to operate

- Couplings not properly connected
- Coupling failure - fails to open internal check when connected
- No flow from Power Unit
- Hoses Reversed on power unit
- Couplings reversed on tool

- Connect couplings correctly (See page 3, section 4)
- Remove and replace coupling
- Check power unit and repair as required.
- Remove and reverse hoses
- Remove and reverse couplings

*\* Call your authorized Jaws of Life Distributor for maintenance and annual inspection care.*

# ACCESSORIES

## ENHANCE YOUR SYSTEM WITH THESE ACCESSORIES.

Jaws of Life® leads the industry in innovation-- not just in hydraulic rescue tools, but in a broad range of accessories that complement the industry's most complete line.

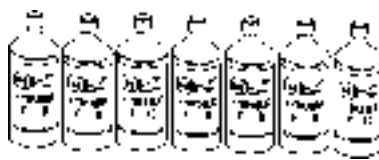
### Attachment set

Real-life extrications often require more than standard tips. This handy set increases the capability of your system. The set includes a conical point, base plate, V-block and wedge that mount directly to any of the rams. An adapter permits the base plate to be used with the JL-32B and JL-27 for lifting applications. The components are investment cast tool steel. The set is enclosed in an impact-resistant plastic storage/carrying case, and includes shackle pins.



### Fire-resistant hydraulic fluid

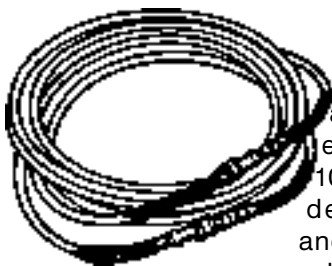
Jaws of Life synthetic fluid is the best fluid available for hydraulic rescue applications.



It is a fire-resistant, noncorrosive, electrically nonconductive, rust preventive lubricant that maintains its viscosity over a wide range of temperatures. Jaws of Life hydraulic fluid resists deterioration over time and has proven itself as the hydraulic fluid of choice for two decades. It is available by the case (7 quarts/6.65 liters per case).

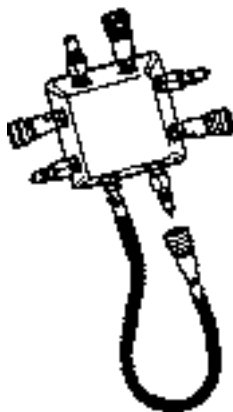
### Hose

Nonconductive thermoplastic twinned-line Jaws of Life hose is lightweight, kink-resistant, permanently bonded and provides superior flexibility. This distinctive orange hose is completely synthetic and Kevlar reinforced, and meets or exceeds SAE 100R8. It resists deterioration and abrasion, and is easy to clean. Proof-tested to 20,000 psi (1,380 bar), our hose provides a 4:1 operational safety factor, and is available in 100-foot (30.5m), 30-foot (9.15m) and 16-foot (4.9m) lengths with quick disconnects.



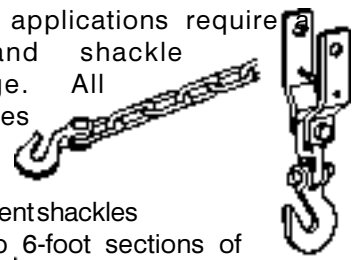
### Multi-tool manifold blocks

Connect two or three Jaws of Life tools to a single power unit and simplify hydraulic hose layout. These patented multi-tool manifolds allow automatic pressure change-over to any of the connected tools. Constructed of rugged alloy steel with black oxide finish and high visibility reflector plate. Multi-tool manifolds are available with or without pressure dump valve.



### Chains and shackles

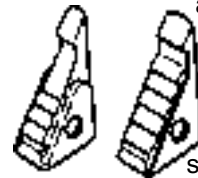
Pulling applications require chain-and shackle package. All packages include two attachment shackles and two 6-foot sections of chain with slip hooks. Shackles attach to Jaws of Life tools with quick-release pins.



- ☐ Package A: JL-16, JL-24
- ☐ Package B: JL-32B, JL-27, rams
- ☐ Package C: Extension chain for JL-32B, JL-27

### Entry tips

These tips originally designed for aircraft skin applications are useful in piercing, cutting and slitting sheet metal, wallboard and other panel type barriers such as trains, planes, buses, ship bulkheads and mobile homes. They interchange quickly with standard automotive style tips of JL-32B and JL-27.



### 2-cycle additive lubricant

This synthetic lubricating oil comes in convenient 2-ounce bottles designed to mix with 1 gallon of gasoline. Regular use assures proper gasoline mixture for smooth operation and extended life, (24 bottles/case).



### Reels

Available with manual or electric rewind, space-saving reels come with 100 feet (30.5m) of hose to allow quick, efficient operation and orderly hose storage. There is no need to remove the power unit from the vehicle. Electric 12V DC rewind model operates from the emergency vehicle's electrical system. Both units are 18 inches (457mm) high and rest on a 14-inch (356mm) mounting base. The electric rewind model is 17 inches long by 23.25 inches wide (432mm by 590mm); the manual model is 16.5 inches by 18 inches (419mm by 457mm).



# **HURST**

**IDEX**  
**IDEX CORPORATION**

## ***SALES***

700 SPRING MILL AVENUE  
CONSHOHOCKEN, PA 19428  
TEL: (610) 825-6300  
FAX: (610) 825-6440

## ***MANUFACTURING***

711 N. POST ROAD  
SHELBY, NC 28150  
TEL: (704) 487-6961  
FAX: (704) 487-7271



**PRINTED IN USA • 0397 • PART NO. 159R125 REV. 01 • ©1997 Hale Products, Inc.**

Hale Products, Inc. reserves the right to make changes at any time, without notice or obligation, in prices, materials, equipment or specifications and to change or discontinue models. Check with distributor for current information